PATENT
Attorney Docket No. SAM-0267

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Woon Na
Filing Date: Herewith
Title: APPARATUS FOR SEPARATING A LUMINANCE SIGNAL AND A CHROMINANCE SIGNAL FROM AN NTSC COMPOSITE VIDEO SIGNAL

CERTIFICATE OF MAILING UNDER 37 C.F.R.§ 1.10

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November 13, 2001
Date

Denise M. Donahue
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BOX PATENT APPLICATION
Assistant Commissioner for Patents
Washington, DC 20231

PRELIMINARY AMENDMENT

Sir:

Please amend the application as follows:

In the Specification

Please amend the specification as follows:

Please replace the paragraphs at page 2, line 29 through page 3, line 21 with the following rewritten paragraphs:

(Amended) Accordingly, to achieve the above object, there is provided an apparatus for separating luminance and chrominance signals. The apparatus includes: first, second, third, and fourth delayers connected to a digital composite video signal in series, the first, second, third, and fourth delayers for delaying input signals each by 1 horizontal period; a first filter for separating a first chrominance signal from signals output from the first and second delayers; a second filter for separating a second

chrominance signal from signals output from the second and third delayers; a vertical edge direction detector for detecting a vertical edge direction by receiving signals output from the

second and fourth delayers and receiving the digital composite video signal; a multiplexer for outputting the first or second chrominance signals based on a signal output from the vertical edge direction detector; a chrominance signal outputting unit for receiving the signal output from the multiplexer and then outputting a perfect chrominance signal; and a luminance signal outputting unit for receiving the signal output from the second delayer and the perfect chrominance signal and then outputting a perfect luminance signal.

Preferably, the first and second filters are each comb filters.

Preferably, the first filter includes a first subtractor for subtracting the signal output from the first delayer from the signal output from the second delayer and a first divider for dividing a signal output from the first subtractor by 2 and then outputting the first chrominance signal.

Preferably, the second filter includes a second subtractor for subtracting the signal output from the third delayer from the signal output from the second delayer and a first divider for dividing a signal output from the second subtractor by 2 and then outputting the second chrominance signal.

Please replace the paragraph at page 4, lines 5-8 with the following rewritten paragraphs:

(Amended) Preferably, the luminance signal outputting unit includes a subtractor for subtracting the perfect chrominance signal from the signal output from the second delayer to separate a luminance signal from the chrominance signal and a second limiter for limiting the luminance signal output from the subtractor to a predetermined magnitude to output a perfect luminance signal.

In the Claims

Please amend claims 3, 4 and 7 as follows:

3. (Amended) The apparatus of claim 1, wherein the first filter comprises:

a first subtractor for subtracting the signal output from the first delayer from the signal output from the second delayer; and

a first divider for dividing a signal output from the first subtractor by 2 and outputting the first chrominance signal.

4. (Amended) The apparatus of claim 1, wherein the second filter comprises:

a second subtractor for subtracting the signal output from the third delayer from the signal output from the second delayer; and

a first divider for dividing a signal output from the second subtractor by 2 and outputting the second chrominance signal.

7. (Amended) The apparatus of claim 1, wherein the luminance signal outputting unit comprises:

a subtractor for subtracting the perfect chrominance signal from the signal output from the second delayer to separate a luminance signal; and

a second limiter for limiting the luminance signal output from the subtractor to a predetermined magnitude to output a perfect luminance signal.

Applicant(s): Woon Na

REMARKS

The amendments to the specification are made to clarify the description. No new matter is added to the application.

Attached hereto is a marked-up version of the changes made to the application by the current Amendment. The attached pages are captioned "Version with Markings to Show Changes Made."

Respectfully submitted,

Date: November 13, 2001

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Version with Markings to Show Changes Made

In the Specification

The paragraphs at page 2, line 29 through page 3, line 21 have been amended as follows:

(Amended) Accordingly, to achieve the above object, there is provided an apparatus for separating luminance and chrominance signals. The apparatus includes: first, second, third, and fourth delayers connected to a digital composite video signal in series, the first, second, third, and fourth delayers for delaying input signals each by 1 horizontal period; a first filter for separating a first chrominance signal from signals output from the first and second delayers; a second filter for separating a second chrominance signal from signals output from the second and third delayers; a vertical edge direction detector for detecting a vertical edge direction by receiving signals output from the second and fourth delayers and receiving the digital composite video signal; a multiplexer for outputting the first or second chrominance signals based on a signal output from the vertical edge direction detector; a chrominance signal outputting unit for receiving the signal output from the multiplexer and then outputting a perfect chrominance signal; and a luminance signal outputting unit for receiving the signal output from the second delayer and [the chrominance signal] the perfect chrominance signal and then outputting a perfect luminance signal.

Preferably, the first and second filters are each comb filters.

Preferably, the first filter includes a first subtractor for subtracting the signal output from the first delayer from the signal output from the second delayer and a first divider for dividing a signal output from the first subtractor by 2 and then outputting [a signal output from the first filter] the first chrominance signal.

Preferably, the second filter includes a second subtractor for subtracting the signal output from the third delayer from the signal output from the second delayer and a first divider for dividing a signal output from the second subtractor by 2 and then outputting [the second chrominance signal] the second chrominance signal.

The paragraph at page 4 lines 5-8 has been amended as follows:

(Amended) Preferably, the luminance signal outputting unit includes a subtractor for subtracting [the chrominance signal] the perfect chrominance signal from the signal output from the second delayer to separate a luminance signal from the chrominance signal and a second limiter for limiting the luminance signal output from the subtractor to a predetermined magnitude to output a perfect luminance signal.

In the Claims

Claims 3, 4, and 7 have been amended as follows:

3. (Amended) The apparatus of claim 1, wherein the first filter comprises:

a first subtractor for subtracting the signal output from the first delayer from the signal output from the second delayer; and

a first divider for dividing a signal output from the first subtractor by 2 and outputting [a signal output from the first filter] the first chrominance signal.

4. (Amended) The apparatus of claim 1, wherein the second filter comprises:

a second subtractor for subtracting the signal output from the third delayer from the signal output from the second delayer; and

a first divider for dividing a signal output from the second subtractor by 2 and outputting the [a signal output from the second filter] second chrominance signal.

7. (Amended) The apparatus of claim 1, wherein the luminance signal outputting unit comprises:

a subtractor for subtracting [the chrominance signal] the perfect chrominance signal from the signal output from the second delayer to separate a luminance signal; and

a second limiter for limiting the luminance signal output from the subtractor to a predetermined magnitude to output a perfect luminance signal.